

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Providence Chain Company

Rhode Island Manufacturing Extension Services

Eliminating Waste At Providence Chain Company

Client Profile:

Providence Chain Company has been a family owned jewelry manufacturer since the mid-1860s. The Providence, Rhode Island facility has been home to Providence Chain Company since 1949. The company manufactures over 3,000 chain styles in karat gold, sterling silver, and several base metals, by the foot or as finished neck chains and bracelets. As a full service manufacturer employing 100 people, it can manufacture to its customers' precise specifications. The customer base consists primarily of wholesalers and manufacturers.

Situation:

Providence Chain Company had to make some adjustments over the last decade as the U.S. jewelry industry began to shift away from base metals (such as brass, aluminum, stainless steel, and copper) as this portion of the industry went overseas. After changing the product mix from approximately 10 percent precious metals to 90 percent, the company completely overhauled the way it marketed and sold products. Providence Chain has experienced steady growth since its transition to precious metals, growing market share even as many other jewelry manufacturers cut back by up to 20 percent. Nonetheless, the company knew that it needed to improve performance to become more competitive in the chain industry. Providence Chain Company contacted Rhode Island Manufacturing Extension Services (RIMES), a NIST MEP network affiliate, for assistance from outside manufacturing expertise.

Solution:

RIMES provided a fresh set of eyes and helped Providence Chain Company streamline its manufacturing processes in order to save time and money. The company wanted to become more efficient, cut out waste, reduce work-in-progress (WIP), and drive down delivery times while maintaining a high level of quality.

RIMES arranged for company leaders to tour other Rhode Island manufacturing firms with lean operations, and then set up classroom exercises to introduce Providence Chain staff to the concepts of lean manufacturing. Working with one department at a time, RIMES created value stream maps that detailed the processes, then analyzed every step in the chain manufacturing process. Studying those maps, everyone involved began to see operations in a new way and immediately found areas where efficiency could be improved. For instance, RIMES suggested a method of color-coding the heads and tools of

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machine changeover equipment and then placing them all on a single ring for quick, easy access--a small, common sense change that made a huge difference. The lean team also realized that staff mechanics had to remove almost a dozen individual parts in the course of a changeover. RIMES recommended that they have the separate pieces cast as a single unit; now mechanics unbolt one part rather than a dozen parts. These two modifications took changeover time from one hour and forty-five minutes down to just thirty minutes, and the team is working to reduce the time to ten minutes. Another recent productivity savings occurred, away from the shop floor, when the lean team took an order entry process from 25 hours down to 25 minutes!

The work with RIMES also opened up lines of communication within the company. Now all training, exercises, and projects are regularly bringing together all levels of the company hierarchy for the first time, allowing staff to identify problems and freeing management to work on long-term planning.

Results:

Reduced changeover time from nearly 2 hours to just 30 minutes.

Reduced order entry time by 24.5 hours.

Trained all staff in lean manufacturing practices.

Improved internal communication.

Testimonial:

"A number of years ago, we hired several manufacturing consultants, but quickly found that their first priority was to make money. Rhode Island Manufacturing Services, on the other hand, is very hands-on and made fixing our issues a personal vendetta. The RIMES engineers have solid industrial experience and offer a complete program to address all aspects of our business. Being able to actually see companies using their programs, to see the theory in action, really helped. Our work with RIMES is an ongoing pursuit of process improvement throughout Providence Chain, and our relationship with RIMES will only get stronger."

Timothy Ouhgrabka, Senior Vice President, Marketing & Sales